Testimony of
Douglas Presley, Policy and Regulatory Affairs Manager, Dandelion Energy,
in Support of
SB 979, *An Act Promoting Energy Affordability, Energy Efficiency and Green Cities*

February 27, 2023

Chairman Lopes, Chairman Gresko, Ranking Member Harding, Ranking Member Callahan, and distinguished members of the Committee, thank you for the opportunity to provide testimony. Dandelion Energy is submitting this testimony to express our support for SB 979, *An Act Promoting Energy Affordability, Energy Efficiency and Green Cities*.

Dandelion Energy is a residential geothermal heat pump company with over 400 customers in over 100 towns and municipalities across the state. Geothermal heat pump systems are the most energy efficient, and therefore the most affordable, way to heat and cool a home.[1]

- Geothermal systems use a heat pump and a loop of underground piping to transfer heat, leveraging the steady temperature of the ground to efficiently heat buildings in the winter and cool them in the summer.
- Geothermal systems are four times more efficient than traditional fossil fuel furnaces and boilers, and can provide 100% of heating load for a building in the coldest climates without fossil fuel back-up.
- Due to their high efficiency, geothermal heat pumps use about half of the electricity over the course of a year that air source heat pumps would use, and only about ⅓ of the electricity load on the coldest day of the year.
- Geothermal systems save residents money on their utility bills and typically decrease greenhouse gas emissions by 70-80% when replacing electric resistance, fuel oil, propane, or gas heating systems.

Consistent with Dandelion's mission to bring affordable, renewable heating and cooling to American homes, SB 979 will accelerate the deployment of heat pumps and reduce energy costs for Connecticut residents. Sections 5 and 6 of the Act would establish minimum standards for professional education regarding heat pumps for heating and cooling professionals, electricians, and plumbers, providing an important workforce development step towards improving familiarity with heat pumps across the heating and cooling workforce. **We are strongly supportive of Sections 5 and 6 of the Act**.

[1] Geothermal heat pumps - U.S. Energy Information Administration (EIA)

The current workforce has historically focused on fossil fuel systems, with less focus on heat pumps; for example, current licensing tests include fewer than five questions dedicated to heat pump systems (8% of 60 total questions), compared to 15 to 20+ questions on fossil fuel systems (25-33% of 60 total questions). In trying to address this knowledge gap, the EnergizeCT program, funded by Connecticut ratepayers, is spending up to $1.2 million this year to support energy efficiency workforce development,[2] and SB 979 will provide an added boost to reinforce these critical efforts.

There is strong consumer demand for heat pumps, but there is an urgent shortfall in the licensed heat pump workforce. For example, Connecticut will need to increase annual heat pump installations by a factor of more than 15 times to meet its climate goals.[3] SB 979 represents an important improvement in refocusing the heating and cooling workforce towards heat pump installations, and we urge the Committee to vote in favor of this bill.

Dandelion Energy is excited about the market potential for heat pumps in Connecticut, and we look forward to working together to achieve a clean energy future for all Connecticut residents. We hope you will support SB 979.

Respectfully submitted,

Doug Presley
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[2] 2023 Plan Update to Connecticut's 2022-2024 Conservation & Load Management Plan, p. 42, https://portal.ct.gov/DEEP/Energy/Conservation-and-Load-Management/Conservation-and-Load-Management

[3]The Eversource and United Illuminating presentation to the Residential Energy Efficiency Board on February 8, 2023, estimated that in 2022 the utilities provided rebates for approximately 2,135 heat pumps replacing electric resistance, fuel oil, and propane, with nearly half of systems representing partial-home mini-split heat pumps, see presentation #6 at https://app.box.com/s/jmdjpyvutdkfvire4aa2y5s88vsd27f4; to meet the Global Warming Solutions Act goals, contractors will need to install approximately 33,000 whole-home heat pumps every year until 2050 to decarbonize 80% of the 1.1 million residence currently utilizing fossil fuels.